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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/694,076 | 10/27/2003 | Ming C. Hao | 200209329 | 3816 |

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| EXAMINER | |
|---|---|
| LAY, MICHELLE K | |
| **ART UNIT** | **PAPER NUMBER** |
| 2672 | |

DATE MAILED: 05/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/694,076 | HAO ET AL. | |
| | Examiner | Art Unit | |
| | Michelle K. Lay | 2672 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *27 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims **1 – 7**, **9 – 14**, **16 –21, 23 – 25** are rejected under 35 U.S.C. 102(b) as being anticipated by Baker et al. (US Patent Number 5,581,797).

In regards to claims **1**, **13**, **20** –

Baker et al. teaches an interactive method and apparatus for displaying important structures and statistics in a manner where the entire software system can be visualized as an entity. The visualization technique is to present similar subdivisions of the code in similar geometric shapes of having substantially equal reference frames. Referring to Fig. 3A, the display space (303) is divided into a number of shapes of geometric shapes (307) (claims **1**, **13**, **20**: set of pixel blocks), with the size, i.e. area, of each geometric shape representing the number of NCS lines in its respective subsystem (claims **1**, **13**, **20**: aggregate of a set of information) [column 4, lines 57 – 60]. The visual boundary is determined by the outlines of geometric shapes (307) (claims **1**, **13**, **20**: visual boundary). Referring to Fig. 1, a computer system (101) includes a terminal (103), which provides output to and receives input from technical personnel operating the computer system (101), processor (113), which performs the actual operations, memory

(115), which contains programs (117) executed by processor (113) (claim **20**: computer program), and data (119), which contains data regarding a hierarchical software system and may contain the hierarchical software system itself. Computer system (101) also has mass storage unit (120) for storing large programs and large quantities of data (claim **13**: data storage) [column 3, lines 36 – 46]. Terminal (103) includes a display screen (105) (claim **13**: display), upon which processor (113) displays information for the operator. Display screen (105) also includes a pointer (107), which specifies a location in display (105) and may be moved under control of either keyboard (109) or mouse (111) [column 3, lines 47 – 53]. When employing computer system (101) to process and display information, i.e. statistics, about a large hierarchical software system, the operator inputs one or more commands using keyboard (109) or mouse (111); processor (113) executes programs (117) as required to perform the command or commands and displays the results on the display screen (105) [column 3, lines 59 – 64]. It is inherent that the display comprises pixels being rendered when the distribution graph is generated on the display, therefore resulting in a pixel-oriented graph. As disclosed, terminal (103) includes a display screen (105), upon which processor (113) displays information for the operator (claims **1**, **13**, **20**: pixel-oriented graph) [column 3, lines 3, lines 46 – 58].

In regards to claims **2**, **10**, **14**, **17**, **21** –

Referring to Fig. 3A, the display space (303) is divided into a number of geometric shapes (307), with the size, i.e. area, of each geometric shape representing the number

of NCS lines in its respective subsystem (claims **2**, **14**, **21**: aggregate of a set of information) [column 4, lines 57 – 60]. The visual boundary is determined by the outlines of geometric shapes (307) (claims **2**, **10**, **14**, **17**, **21**: visual boundary). Dragging the indicator bar from MIN to MAX with pointer (107) and mouse (111) increases the number of rows in the display area (303) from 1 to the number of subsystems in the software system as a maximum. The operator may choose the number of rows that are easiest for he or she to interpret (claims **2**, **10**, **14**, **17**, **21** user selection) [column 5, lines 8 – 11]. Therefore, by choosing the number of rows to view, a certain number of geometric shapes (307) are displayed (claim **2**, **14**, **21**: selection of the aggregate), resulting in determining the visual boundary (claims **10**, **17**). Furthermore, the user may select a subsystem, such as wl shown in window (501) of Fig. 5 (claims **2**, **14**, **21**: selection of the aggregate) [column 6, lines 30 – 31]. The outline of the geometric shape (507) determines the visual boundary (claims **2**, **14**, **21**: determining visual boundary).

In regards to claim **3** –

The display program (122) of Fig. 1, allocates subsystems (claim **3**: aggregate) to be displayed in the first row in alphabetical order. The display program (122) tentatively allocates the quotient of (Subs/Rows) as the number of subsystems on the first row. The area of each row is adjusted to its corresponding portion of the display space (303) (claim **3**: location) [column 5, lines 39 – 40]. As shown in Fig. 1, the subsystems are represented by the geometric shapes (307). From the rationale given in claim **1**, the

visual boundary is determined by the outlines of geometric shapes (307), comprised of lines (claim **3**: location of lines). Furthermore, the allocation determines the location for the depiction of the subsystems, since each row is adjusted so that the display (105) is utilized at one hundred percent [column 5, lines 49 – 50].

In regards to claim **4**, **7** –

The display program (122) of Fig. 1, allocates subsystems (claim **4**, **7**: aggregate) to be displayed in the first row in alphabetical order. The display program (122) tentatively allocates the quotient of (Subs/Rows) as the number of subsystems on the first row. The area of each row is adjusted to its corresponding portion of the display space (303) (claim **4**, **7**: location) [column 5, lines 39 – 40]. As shown in Fig. 1, the subsystems are represented by the geometric shapes (307). From the rationale given in claim **1**, the visual boundary is determined by the outlines of geometric shapes (307). Furthermore, the allocation determines the location for the depiction of the subsystems, since each row is adjusted so that the display (105) is utilized at one hundred percent [column 5, lines 49 – 50]. The geometric shapes (307) are rectangles, but other geometric shapes such as triangles, trapezoids, etc. could be used. Especially if a circular display space is used, concentric adjacent rings could be used instead of rows and sections of such rings could be used as the geometric representing each subsystem (claim **7**: curve) [column 4, lines 60 – 65]. Thus, if a circular display space is used, the display program (122) would adjust the area of each row, where in this case,

would be concentric adjacent rings, i.e. curves corresponding to the portion of the display space (303) where the visual boundaries would then be curves.

In regards to claims **5**, **6** –

The geometric shapes (307) are rectangles (claim **5**), but other geometric shapes such as triangles, trapezoids, etc. could be used. Especially if a circular display space is used, concentric adjacent rings could be used instead of rows and sections of such rings could be used as the geometric representing each subsystem (claim **6**) [column 4, lines 60 – 65]. Thus, from the rationale given in claim **4**, the allocation determines the location for the depiction of the subsystems, either being rectangles or circles, depending on the display (105) screen.

In regards to claims **9**, **16**, **23** –

Each row is adjusted to its corresponding portion of the display screen (303) [column 5, lines 39 – 41]. The row height adjustment makes the use of uneven row lengths or broken-in-the middle geometric shapes for filling rows in the display space (303) unnecessary [column 5, lines 46 – 48].

In regards to claims **11**, **12**, **18**, **19**, **24**, **25** –

Some of the geometric shapes (307) are shaded (claims: **12**, **19**, **25**: weight). In Fig. 3A, this shading represents the proportion of newly written NCS line in the subsystem [column 5, lines 55 – 56]. This shading provides an indication of the type of

information. As stated from the rationale of claims **1**, **13**, **20**, the visual boundary is determined by the outlines of geometric shapes (307), thus if shading is involved, the outlines are also altered to the same criteria, providing a contrast, i.e. weight, to distinguish information. Coloring could be used instead of the gray shading ins Figs. 3A – 10 (claims **11**, **18**, **24**: coloring) [column 8, lines 16 – 17].

2. Claims **1**, **8**, **11**, **13**, **15**, **20**, **22** are rejected under 35 U.S.C. 102(b) as being anticipated by Tabei et al. (US Patent No. 5,929,863).

In regards to claim **1**, **13**, **20** –

Tabei et al. discloses a record retrieval processor that forms a two-dimensional distribution graph from a plurality of records stored in a record file on the basis of designated items on the x- and y-axes and displays the distribution graph on a display unit. Referring to Fig. 4, the aggregate as claimed is displayed on the display region within a specified range by the user (claims **1**, **13**, **20**: set of information), and is designated in a thick frame (claims **1**, **13**, **20**: visual boundary) [column 6, lines 1 – 10]. This thick frame provides a boundary to distinguish the block of information. The method of Tabei et al. is performed on a the computer system (1) (claim **13**: system) shown in Fig. 1, which includes a CPU (2), an input unit (3), a ROM (4), a work memory (5) (claim **13**: data store), a record retrieval processor (6), a record file (7), a retrieval key memory (8) a display memory (9), and a display unit (10) (claim **13**: display) [column 3, lines 10 – 15]. THE CPU (2) controls the individual components in the

computer system (1) in accordance with various control programs stored in the ROM (4) (claim **20**: computer program), executes various information processing, and displays the processes and the processing results on the display unit (10) via the display memory (9) [column 3, lines 17 – 22]. It is inherent that the display comprises pixels being rendered when the distribution graph is generated on the display, therefore resulting in a pixel-oriented graph (claims **1**, **13**, **20**: pixel-oriented).

In regards to claims **8**, **15**, **22** –

As described in step S4 of Fig. 2, graph axes based on the x-and y-coordinate maximum values are formed and displayed on the display unit (10) as indicated by process 3 in Fig. 3 (claims **8**, **15**, **22**: visual boundary) [column 5, lines 29 – 32]. A distribution graph is formed and displayed as indicated by process 4 in Fig. 3. An operation of drawing and designating a retrieval range in a thick frame is preformed on this distribution graph (claims **8**, **15**, **22**: set of pixel blocks) [column 5, lines 36 – 42]. The graph axes would be considered the visual boundary that permits construction of pixel blocks, such as the retrieval range indicated within the thick frame, to be located above or below the visual boundary. From the rationale of claims 1, 15, 20, it is inherent that the display comprises pixels being rendered when the distribution graph is generated on the display, therefore resulting in a pixel-oriented graph.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Halstead, JR. (US Publication No. US 2002/0118193 A1)

Hao et al. (US Publication No. US 2003/0071815 A1)

Impink, Jr. (US Patent No. US 6,211,880 B1)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michelle K. Lay whose telephone number is (571) 272-7661. The examiner can normally be reached on Monday - Friday, 7:00am - 3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on (571) 272-7664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

05.18.2005 mkl

RICHARD HJERPE 5/24/05
SUPERVISORY PATENT EXAMINER
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